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PROTECT HARDWOOD STANDS . . from GRAZING

UNITED STATES DEPARTMENT OF AGRICULTURE

Leaflet No. 86

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A Thrifty Farm Woods Makes a Poor Pasture;
If Pastured It Soon Becomes a Poor Woods!

INTRODUCTION

In the Central and Eastern States, farm woodlands supply fuel wood, fence posts, rough timbers, and other products in considerable quantity for home use and for sale. If these woodlands are to continue producing timber crops of high quality and yield, they should not be grazed.

Many of the farm woodlands in the hardwood regions of the Central and Eastern States have lost their former thrifty appearance; they are now open and have no young growth coming in to restock the stands; the larger trees are in many cases stunted, and others are dead or dying; timber production is low; and frequently the soils are eroding and washing away. These are results of grazing by livestock.

Grazing seriously damages trees of all ages. In general, a thrifty farm woods makes a poor pasture; if pastured, it soon becomes a poor woods.

Timber, like a corn crop, needs some attention, and both need protection from livestock. In the case of timber, the returns are deferred because of the longer period required for the crop to reach merchantable size, but if properly managed, the woodland can be made to produce an income besides meeting, in large measure, the timber requirements of the farm. In balancing the farm program it is important to remember that a good timber crop offers means for profitable use of labor, teams, and equipment during the late fall and winter when field operations are at a standstill.

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LEAFLET NO. 86

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Protect Hardwood Stands From Grazing

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The farm woodland continually and excessively grazed holds little promise of profitable timber production; if protected and managed in accordance with simple forestry practices, it can become a source of additional income.

Healthy Conditions of Woods Essential.—The forest provides its own blanket of leaves and humus. This rich mulch on the forest floor and the loose porous soil are essential to the rapid growth of hardwoods. In a pastured woods it will be noticed that grazing destroys the protective covering. The constant trampling and rubbing, if continued, eventually exposes the tree roots, injures them, and allows those that are exposed to dry out. Nothing is more important in the production of a crop of timber than maintenance of healthy, vigorous growing conditions in the woods.

Quality of Timber Lowered by Grazing.—Damage to timber from grazing is not always recognized. Grazing does, however, affect adversely both the quality and quantity of lumber produced. The best quality timber comes from protected woods in which soil and growing conditions are undisturbed. Damage to the roots and trampling of the soil slow the growth of timber. In time

F-3[illegible]

Open park woods with a few trees of poor quality, the result of heavy grazing.

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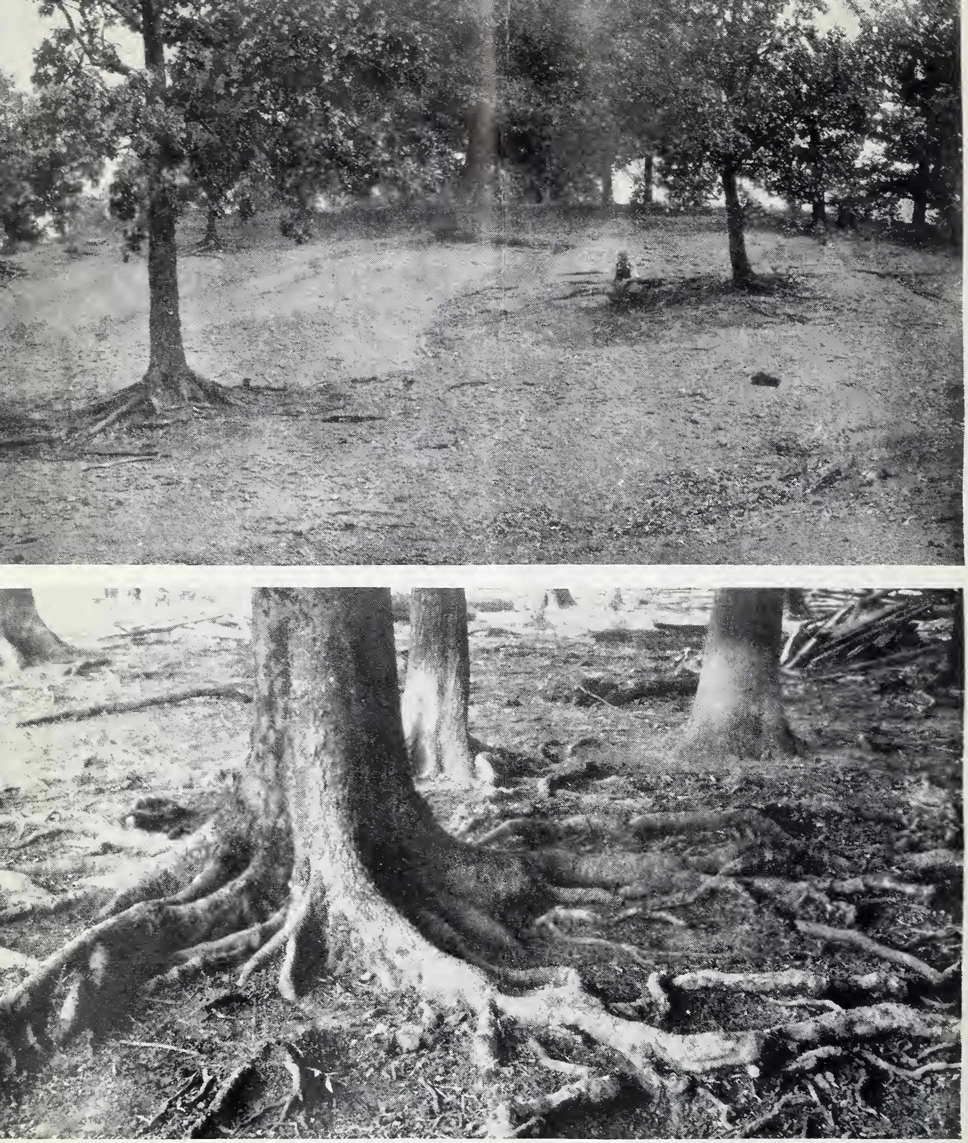


UPPER, F-237833; LOWER, F-230001

Upper.—Overgrazing on a slope may lead to sheet erosion with a complete loss of the top soil, a decrease in farm land values, and subsequent abandonment. Note the absence of young trees. Lower.—Shallow-rooted trees like the beech are among the first to suffer root injury from trampling.

the older trees are weakened, and frequently develop dead tops and other defects as the result of injury, and eventually die.

Overgrazing is believed to cause an increase in butt decay, which is common in some hardwood stands. When such trees are cut, the decayed portion is often sawed off and left in the woods, a serious loss to the owner.

Timber buyers have often commented on the lower grade of timber from the heavily grazed woods as compared with the higher quality of timber from protected woods. In one instance a buyer familiar with decadent conditions of woodlands overrun with livestock purchased a 37-acre tract of timber, 5 acres of which had been grazed. He did not want the timber on the grazed area and did not estimate it because he knew the trees were practically worthless. The buyer consented to cut this timber, however, and, as expected, found heavy deductions necessary because of inferior quality. According to his statement 60 to 70 percent of the logs on the grazed area were seriously defective and of no value.

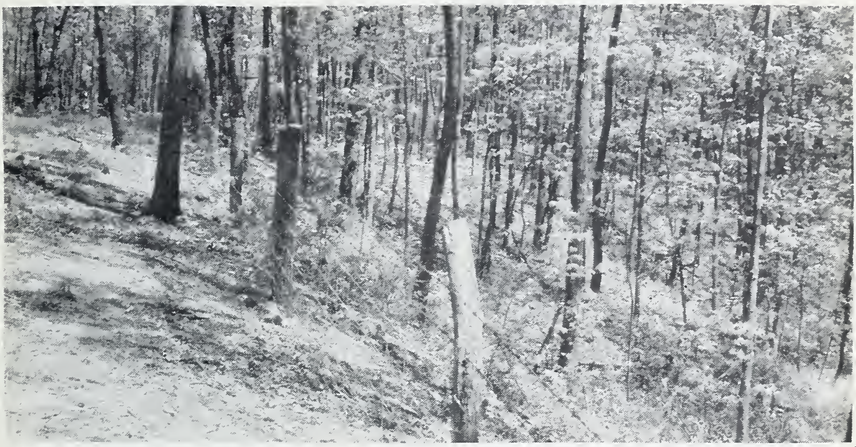
Upper.—High-quality timber is especially desired by timber buyers and brings top prices. The thrifty condition of the stand, the abundant undergrowth, and a heavy leafmold indicate that the woods has been given protection. Lower.—The farmer with a bountiful supply of trees of varying ages and sizes can harvest salable products as indicated in the cutting of ash logs. This woods was protected from damage by grazing animals.

UPPER, SOIL CONSERVATION SERVICE; LOWER, OHIO FORESTRY DEPARTMENT

UPPER LEFT, F-19918; LOWER LEFT, F-56631; UPPER RIGHT, F-174; LOWER RIGHT, F-24961

Upper left.—Severe damage from recurrent browsing in a planted grove of ash trees. Upper right.—Cattle browsing on young, tender sprouts of oak and hickory. Lower left.—A well-managed woodland with an undisturbed soil covered with leafmold affords ideal conditions for natural reproduction. Note the sprouting acorns. Lower right.—Forest soil rich in humus and as mellow as corn meal. This porous soil has a large water-holding capacity and is excellent for rapid timber growth.

Forage Value Low in Woodlands.—Under continued pasturing over a period of years a farm woodland may gradually change over from forest to prairie conditions with possibly only a few stunted trees remaining. If the woodland is



UPPER, F-38367-B; LOWER, SOIL CONSERVATION SERVICE

Upper.—Trees will come back if livestock is removed and the woods protected as is the case in this farm woods. A timber stand like this is a valuable asset. Lower.—Many farmers fence their livestock out of the woods. Note the unprotected woods on the left as compared with the abundant growth on the protected side of the fence.

on lower grade soils or on slopes, it may not yield much forage. On good soils grazing will bring about destruction of the farm woods even though this woodland is a needed and valuable asset to the farm.

Experimental studies have shown that a thin sod under a rather dense forest stand will yield less than half of the grass that can be expected from a good pasture. Frequently the value of forage in the woods is negligible; hence, it is of little consequence in a dairy or livestock grazing program. A farmer who had carefully observed conditions on his place stated that he could grow more forage on 5 acres of open pasture than he could get from his 28 acres of woodland. Also it should be pointed out that in some localities the presence of poisonous plants growing in the woods and a few tree species such as Kentucky coffeetree and Ohio buckeye have caused losses to livestock producers.

Livestock Destroys Better Tree Species.—Studies on the browsing of trees, conducted by the Forest Service, show that the foliage of a number of the more valuable hardwood species is particularly palatable to livestock. The foliage of such trees as white ash, sugar maple, yellow poplar, elm, basswood or linden, white oak, red oak, and shellbark hickory are relished under most conditions. Butternut, honeylocust, black gum, black oak, shagbark hickory, scarlet oak, sycamore or plane, and chestnut are browsed somewhat less frequently.

Some species of trees are seldom browsed even during heavy use. Among these are blackjack oak, hawthorn, black cherry, dogwood, ironwood, sweetgum, pawpaw, and persimmon. Grazing encourages the growth of these inferior or weed trees, leaving them to fill the openings that should be occupied by the species of higher commercial value.

In addition to damage to the better species of trees, the young hardwood seedlings and sapling trees that represent a future forest are noticeably absent from the grazed woodland. Because the young trees are either browsed off, defoliated, or trampled, the woodland has little chance to perpetuate itself.

Grazing Damages the Soil.—When the normal loose condition and the covering of leafmold are disturbed and a large portion of the young growth has been destroyed by grazing, the soil becomes sun-baked and dry, conditions unfavorable to natural restocking. Constant trampling by livestock also compacts the soil. Investigations of the Forest Service indicate that the loss of soil moisture in open, heavily grazed woodlands is one of the important reasons why some woodlands fail to reestablish themselves satisfactorily with young trees.

The packed condition of the soil resulting from grazing not only discourages absorption of rainfall but also allows greater run-off, contributes to erosion on the steeper slopes, and adds to the danger of floods. Experiments carried on by the Forest Service show that over a period of a year the water run-off from grazed farm woodlands may be as much as 50 times the volume from ungrazed woodlands. Rain falling on the humus-litter-covered soil of the protected woodland finds its way into loose porous soil, which absorbs it much like a sponge.

Fencing is Recommended.—Excluding livestock by fencing is necessary for good timber production in the farm woods. If the woods is already a part of the pasture, both the timber and pasture production phases of land use may be developed by fencing off the more heavily timbered areas, leaving the lightly wooded portion in the pasture. Shade and protection for livestock during the hot summer are thus provided, and more profitable timber-growing conditions in the more heavily wooded area are insured.

For further information consult your county extension agent,
State forestry agency, or the Forest Service of the
United States Department of Agriculture.

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